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SCIENTIFIC AND TECHNICAL HEALTH INFORMATION

From the Organization's outset, the Governing Bodies declared that the institution should serve, among its primary missions, to inform the Member Countries of the health situation throughout the Region, of national and international efforts to combat disease and improve the public health, and of advances in science and technology that could contribute to solving health problems and strengthening health services. Administratively, this has led to the establishment of a publications program and an information and documentation program. In 1986, those two programs were joined to form the Scientific and Technical Health Information Program. This document presents an overview of that program: its legal and administrative bases; the projects carried out in the areas of publications and documentation/information; and future prospects for action in those two areas.

After consideration by the Subcommittee on Planning and Programming in April, substantial revisions were made in the document, based on the observations and comments of the members. The Executive Committee is now asked to review the general orientation of the Scientific and Technical Health Information program--publications, documentation and information--and to comment specifically on its scope, pertinence and future prospects.

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SCIENTIFIC AND TECHNICAL HEALTH INFORMATION

INTRODUCTION

One of the original animating purposes of the Pan American Sanitary Bureau was the "stimulation of the mutual interchange of information which may be of value in improving the public health and combating the diseases of man" (Pan American Sanitary Code, 1924). Even before then, at the VI International Sanitary Conference, held in Montevideo in 1920, the half-dozen delegates, one of whom was Carlos Chagas representing Brazil, resolved that the Organization should have a monthly bulletin to communicate matters related to public health; two years later the Boletín de la Oficina Sanitaria Panamericana, the oldest continuously published international public health journal in the world, was launched. Today more than ever, information interchange, or what the Bureau now refers to as the administration of knowledge, serves as a sustaining principle of action. Scientific and technical health information, it is generally understood, is essential to the countries of the Americas not only for policy- and decision-making and program planning, but for the conduct of research and training activities as well as for the delivery of health care at the local level.

The Region's need for scientific and technical health information has become even more critical in direct relation to the economic crisis suffered by many of the countries over the past decade, which in turn has made the generation, dissemination, and availability of health information very difficult. In response to this situation, PAHO provides technical cooperation and channels its efforts through a number of programs: the regional technical programs and their Pan American Centers use information dissemination to support other strategies in their specific areas of activity; the PAHO Textbook Program makes educational materials available to health sciences students at prices they can afford; the Health Situation and Trend Assessment Program administers epidemiological and statistical information of use to monitoring health conditions in the countries and the Region as a whole; and the Scientific and Technical Health Information Program (HBI) has two major components that address regional needs in this regard: 1) publications, and 2) documentation and information. What follows is a presentation of the Scientific and Technical Health Information Program.

I. LEGAL AND ADMINISTRATIVE BASES

The Pan American Sanitary Code states that the Pan American Sanitary Bureau "shall be the...general collection and distribution center of sanitary information (to the countries of the Americas)" and shall "supply to the sanitary authorities of the Signatory Governments through its publications, or in other appropriate manner, all available information relative to the actual status of the communicable diseases of man, new invasions of such diseases, the sanitary measures undertaken, and the progress effected in the control or eradication of such diseases; new methods for combating disease; morbidity and mortality

statistics; public health organization and administration; progress in any of the branches of preventive medicine; and other pertinent information relative to sanitation and public health in any of its phases...."

Article 2(q) of the Constitution of WHO specifies as one of the Organization's functions, "to provide information, counsel, and assistance in the field of health," and there are various other constitutional functions that imply the transfer of information.

In the years intervening since those original statements of purpose, PAHO's and WHO's Governing Bodies, in numerous resolutions, have called for the collection, analysis, and dissemination of information as an important means of executing the general and specific aims of the Organization. Recognition of the important role of information in health care policy, planning, programming, and administration, as well as in research and education, led PAHO to establish the Regional Library of Medicine and Health Sciences (BIREME) in 1967 and subsequently to transform it into the Latin American and Caribbean Center for Health Sciences Information. Importantly, the World Health Organization, in Resolution WHA25.26, in 1972, expressed its belief that WHO "should assume a leading role in the development, coordination, and improvement of biomedical communications, particularly in those fields of major concern to national health services and to international cooperation in the field of health."

In the Seventh General Program of Work covering the period 1984-1989, WHO states that the global program of health information support has as its objective "To ensure the availability to Member States of valid scientific, technical, managerial, and other information relating to health, in printed and other forms, whether originating within the Organization or outside it, particularly in relation to attaining the target of health for all by the year 2000." It further states that WHO will encourage "...resource sharing through the setting up of national health sciences library networks, and fostering cooperation between national networks at the intercountry, regional, and world levels."

For its part, the XXII Pan American Sanitary Conference in 1986 resolved that administration of knowledge was one of three general priority areas for PAHO in the period 1987-1990. That priority continues to be singled out in the "Strategic Orientation and Program Priorities" document to be considered at the XXIII Conference in September 1990.

In consonance with this emphasis on health information support, the Program for Scientific and Technical Health Information was established as part of the area of Health System Infrastructure. The Program is responsible for administering policy and activity in the area of health information--specifically publications and documentation. The Program's specialized center, BIREME, is responsible for organization and operation of the Latin American and Caribbean Health Information Network.

II. SCIENTIFIC AND TECHNICAL PUBLICATIONS

PAHO technical cooperation in the area of publishing has as its objective the provision of good, useful, and important information to public health practitioners throughout the Americas. Its specific aims include serving the Organization's unique mission and reflecting its various priorities; covering the many areas of interest and need of health workers throughout the Region; and filling the gaps in knowledge that exist by publishing information which--if PAHO did not publish it--would simply not be available, either because the expertise needed to gather, compile, analyze, and synthesize it could not or would not be marshalled by any other agency or because, to other publishing enterprises, it would not be commercially attractive or remunerative to undertake. This program also collaborates with national entities and talents to improve country health publications.

The PAHO publications program seeks to achieve its aims by using quality controls to assure the selection of appropriate texts for publication, by producing those texts in various publication series, by identifying target audiences and their information needs, by seeking effective means of distributing PAHO publications, and by strengthening national publishing capacities.

Instituting quality control

PAHO publications are important tools for informing, educating, and training health professionals in the Region and for sharing among them the latest developments in knowledge, research, and ideas. They have the potential of transcending the more passive function of informing, by becoming the catalysts of change in attitude and behavior. They are definitely a reflection of the cause, the standards, and the prestige of the Organization. For those reasons, the selection of manuscripts for publication is a critical function of the program and of the Organization at large.

Recent years have witnessed stepped-up attempts to create a "community of purpose" in this regard that consists of PAHO staff and international experts--the PAHO Publications Policy Committee, the various editorial boards, panels of peer reviewers, and the technical programs, in consort with the publications program--whose main role is to consciously and jointly assure greater quality in the publications of the Organization. Moreover, there is a keener awareness of the Organization's gatekeeper role in the administration of knowledge. What has resulted is a selection of books--on epidemiology, AIDS, drug abuse, allergic and immunologic diseases, and health legislation, to name just a few--that could rival any major commercial press in scope and potential reader demand.

In ascertaining whether a text submitted for publication is original, scientifically sound if it is scientific in nature, and significant for public health concerns, the publications program relies to a great extent on the opinion of peer reviewers. In administering the

Organization's scientific and technical publications and its two flagship journals, the Boletín de la Oficina Sanitaria Panamericana and the Bulletin of the Pan American Health Organization, the program draws on the time and expertise of over 400 unpaid referees from the Caribbean and Latin America as well as PAHO staff. By using the collective screening of experts in the countries to select texts proposed for publication, it is expected that the works published deal with priority fields of interest for national and local health services, research centers, and training institutions.

Issuing books and journals

The publications produced in recent years through the Program for Scientific and Technical Health Information, listed in Tables 1-3, range from scientific and technical titles to periodicals and official documents. The subject matters covered by these publications represent priority areas of concern for the Organization.

The scientific and technical publications (Table 1) include original works generated by PAHO technical staff produced together with experts from throughout the Region, translations into Spanish of WHO originals in English, and joint publications with such well-respected entities as the American Public Health Association (Control of Communicable Diseases in Man) the American Medical Association (Compendio de enfermedades alérgicas e inmunológicas), the National Institute of Health's Fogarty International Center (Strengthening Health Research in the Americas through International Collaboration), the World Bank (Por una alimentación mejor), and the American Association for Retired Persons (Midlife and Older Women in Latin America and the Caribbean).

The monthly Boletín de la Oficina Sanitaria Panamericana, which has been issued regularly since 1922, and the quarterly Bulletin of the Pan American Health Organization, its English-language counterpart, provide scientific and technical information on current biomedical and public health topics of interest to PAHO's Member Countries; give coverage of policies and programs of the Organization; and offer a forum for presentation of the work of scientists in the Region, especially in the Caribbean and Latin America. The nationalities of the principal authors contributing articles to last year's issues exemplify the Pan American nature of these two journals: Argentina (6), Bahamas (1), Brazil (6), Canada (1), Chile (4), Colombia (3), Costa Rica (3), Cuba (2), Ecuador (2), Guatemala (1), Jamaica (1), Mexico (2), Peru (3), Trinidad and Tobago (1), the United States including Puerto Rico (15), Uruguay (1), and Venezuela (2). The journals also provide abstracts of important health advances, capsules from the literature, profiles of public health leaders (Carlos Finlay and Carlos Chagas have been the first two featured), and book reviews.

Since 1986, the journals have devoted special issues entirely to the extensive review and updating of an important public health topic, with selected topics ranging from mental health, to health economics, AIDS, drug abuse, and bioethics.

Identifying target audiences and their information needs

Over the decades PAHO has developed a unique storehouse of biomedical and health information. Notwithstanding the existence of this wealth of knowledge, the intended users of it are not always reached. It is important to ask whether health workers in the Member Countries are aware of the PAHO storehouse; whether or not they know what literature and other information relevant to their needs is available to them; whether they realize that, in a sense, their own government is a co-owner of this storehouse and that this gives them a right to know all about it and to somehow make full use of it. To answer these questions, the Organization must identify target audiences and assure that its publications reach the audiences for which they are intended.

With that end in mind, the Organization conducted a mail survey of recipients of the Boletín from April 1988 to March 1989, to promote the journal and survey the readership in an attempt to better understand who PAHO's readers are and what subjects they are interested in, as well as to ensure that the Boletín is reaching the right audience and is of maximum usefulness to its readers. This survey proved exceedingly useful in that it has helped discern the public reaction to the most important periodical published by the Organization. The response, which represented 12.5% of the total distribution, indicated that a vast majority of readers rated the contents of the Boletín either good or excellent, considered its information current, found it useful for professional development, and said that the Boletín provided information they could not find elsewhere. The results confirmed the interdisciplinary nature of the audience and the validity of the journal's editorial mix, while serving as a guide to reorient other aspects of the PAHO publishing program. One of the most interesting findings was that the journal's circulation is increased fivefold by the fact that each copy is shared by at least five people and that most recipients keep all copies of the journal and use them as sources of reference. The readers expressed great interest in certain subjects (AIDS, children's diseases, the role of women in community health programs, and environmental health) and requested more information on others (emergency preparedness and disaster relief, training of health personnel, epidemiology, health programs in other countries, and management). This information will be taken into account in planning future publications.

Seeking effective means of distribution

The publications program has tried in recent years to decentralize its distribution function to the country level and to make it possible for public health workers, trainers, students, and researchers to acquire its books and journals in local currencies. Country outlets have been established in the PAHO offices in Argentina, Mexico, and Trinidad and Tobago, as well as in the Latin American and Caribbean Center for Health Sciences Information in Brazil, the Caribbean Food and Nutrition Center in Jamaica, and the Pan American Sanitary Engineering and Environmental Sciences Center in Peru.

In addition, the WHO Distribution and Sales Office now serves as the agent for PAHO English-language publications in the other WHO regions. An overture has been made to the Asociación Costarricense de Salud Pública (ACOSAP) whereby they would serve as the PAHO distribution agent in Costa Rica and, possibly, other Central American countries. Additional decentralized sales agreements include the establishment of the PAHO Publications Center in Albany, New York in 1986, and an agreement with the Canadian Public Health Association, signed in 1989.

In the English-speaking Caribbean, PAHO has made arrangements to have its publications distributed locally, with all proceeds being kept and used by the country offices to strengthen their own information dissemination function for direct benefit of the countries in that subregion. The program intends to further decentralize its distribution efforts in Central America, the Southern Cone, and Spain over the next two years.

Strengthening the national capacity to write and publish

The situation with regard to biomedical journals published in Latin America and the Caribbean reflects a fourfold crisis: (a) journals tend to be short-lived (lasting an average of 22 months); (b) content, especially original articles, is in short supply, which often makes regular publication difficult; (c) the validity of the content is questionable, owing to the lack of editorial boards and peer review systems; and (d) costs are rising and financing is uncertain. Whereas the Latin American Index Medicus (IMLA) comprises information published in 426 journals, only 47 of those journals have met the standards of quality that permit their inclusion in the Index Medicus of the United States National Library of Medicine.

Publishing, of course, is merely a latter stage of a continuum. It is the quality of research ongoing in the countries, regardless of whether the results are published by PAHO or not, that will dictate the quality of information disseminated in the Region. In order to improve this relationship between research and writing, the publications staff has undertaken a number of activities, including the launching of a new series on biocommunication to be featured regularly in the Boletín de la Oficina Sanitaria Panamericana the purpose of which is to provide guidance in the writing and preparation of manuscripts destined for publication, as well as periodic issuance of the pamphlet "Información a los autores e instrucciones para la presentación de manuscritos." In addition, the Boletín will serialize chapters of the first approved Spanish version of Robert A. Day's well-known book How to Write and Publish a Scientific Paper. It is hoped that this series will help authors throughout the Region to plan, write, and present their studies for publication in an internationally standardized manner that will enhance their chances of success and foster a greater exchange of information among health researchers in the Americas. These materials will be used by PAHO editorial staff to conduct writing-for-publication seminars in the countries.

At the same time, PAHO is collaborating with the countries to strengthen national scientific publications through various types of activities: a) national meetings with editors and members of the editorial boards of the biomedical journals (Chile, Costa Rica, Cuba, Peru, and Venezuela) to study the principal problem areas and identify specific aspects of international cooperation; b) intensive courses and workshops on how to communicate research findings, with special emphasis on the drafting of scientific articles (Chile, Costa Rica, Cuba, Mexico, Nicaragua, Peru, Venezuela, and the Mexican states bordering the United States of America); c) technical cooperation for evaluative studies on the presentation, content, and circulation of biomedical journals; and d) a writing-for-publication seminar planned for the English-speaking Caribbean.

111. SCIENTIFIC AND TECHNICAL HEALTH DOCUMENTATION AND INFORMATION

National networks and the regional system

PAHO has cooperated in the development of an integrated regional system of national networks that aims to meet the information needs of health professionals throughout the Americas, regardless of their level or place of work. The system stimulates, coordinates, and organizes national systems, to which that of PAHO, with its Pan American Centers, other field offices, and the various information units at Headquarters, is joined. By sharing information and documentation resources at the local, national, and regional level--as the most rational means of minimizing the growing cost of the enormous volume of information currently generated throughout the world--each unit in the system can acquire the bibliographic material it needs to satisfy a reasonable percentage of its demand and can share the bibliographic and human resources at the disposal of the entire system.

BIREME serves to promote initiatives, stimulate efforts, and mobilize resources of the cooperative system, whose major operational advantage is the utilization of low-cost technologies of moderate complexity that enable all the countries to gain access to the data bases and facilitate the exchange of documents among all the units in the system.

National biomedical information networks have been established in recent years in 14 countries of the Region (Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, and Venezuela). The University of the West Indies serves as the coordinating center for the English-speaking Caribbean.

The establishment of these networks results both from the adoption of legal provisions, at the behest of national health authorities, and from the initiative of individual institutions. The Organization is promoting the creation of additional national networks in all countries in which these structures do not as yet officially exist; the strengthening of already existing national networks; the inclusion of

those networks in PAHO/country joint programming as an integral part of support for national and local health services; and the collaboration of financing agencies in developing and strengthening these structures.

Latin American literature in health sciences

The principal activities of the regional system are related to bibliographic exchange services, access to national and international data bases, and the Latin American Literature in Health Sciences (LILACS)--a data base designed to hold selected published material that records the intellectual production of health professionals in the countries of the Region as well as publications and documents produced by PAHO. All these publications are processed using a common methodology developed by BIREME and transferred to the countries through courses and in-service training. National networks contribute to this collective effort by compiling and processing the literature generated in the country and transmitting the results to BIREME, which then generates the data base on a compact disc (CD-ROM) and distributes copies of it, free of charge. To make this network exchange work, PAHO has provided CD-ROM readers to all the institutions in the network--some 160 institutions in 19 countries--which has thereby also accorded them access to other data bases that are currently marketed in optical form.

Participating in this collective effort are the countries of the English-speaking Caribbean through the University of the West Indies, and Argentina, Bolivia, Brazil, Chile, Costa Rica, Cuba, Dominican Republic, Ecuador, Mexico, Peru, Uruguay, and Venezuela. The goal is to incorporate all the countries of the Region into this collective effort and to invite the participation of institutions in Spain and Portugal as well. A promotional campaign is underway within and outside the Region, the aim of which is to attract resources for BIREME and the national information centers through the sale of the LILACS compact discs.

All the institutions within the national networks share bibliographic resources placed at their disposal through the bibliographic exchange service, which consists of providing photocopies of documents that are not available at the institutional level. Over the past five years, BIREME provided over 400,000 photocopies of journal articles requested by libraries in the regional system.

Publication is planned of a regional union catalogue of the collections held by libraries in the system. The catalogue will be recorded on CD-ROM and distributed to all the biomedical libraries. It will help make it possible to establish a policy for rationalizing collections that will avoid unnecessary duplication and ensure effective cooperation. Since, however, information without documentation is of no value, a telefax network of 17 machines has been installed in 11 countries. The intention is to expand substantially that network in order to facilitate the exchange of documents among all the units participating in the regional system.

The recently installed CD-ROM production unit at BIREME will be used to generate on compact discs data bases, including MEDLINE and others, of interest to health professionals. Also planned is the provision of CD-ROM readers to all the countries of the Region.

Role of the United States National Library of Medicine

By signing an appendix to its agreement with the United States National Library of Medicine in 1986, PAHO became an International MEDLARS Center. This makes it possible to provide the countries with the additional service of on-line access to data bases. Simultaneous efforts have strengthened the basic journal collections in each country. The goal is to meet 80% of the demand for the most frequently requested biomedical information.

On-line access to MEDLARS outside the United States requires public information networks such as TELENET and TYMNET. Biomedical institutions in most of the countries find these services expensive. The flow of information from the biomedical research centers throughout the world cannot be used effectively to improve health if it is not disseminated rapidly and made accessible to the entire health sciences community.

At the present time, data processing technologies, electronic communications, and the use of satellites make it possible to provide vital medical information on a regular basis. These systems are in a continuous process of development and are ever-expanding in their capacity to disseminate information. Nevertheless, in the countries of Latin America and the Caribbean, the scarcity of this kind of information has always been an important problem that has hindered development of the biomedical disciplines.

Fortunately, the recent incorporation of Chile into BITNET (Because It's Time Network) has given impetus to the search for a low-cost option for transmitting biomedical information to the developing countries. The result has been the creation of BITNIS (BITNET-National Library of Medicine Intercommunication System), the first attempt to link information sources with users in various countries by means of an academic, low-cost, and nonprofit computerized network.

PAHO Headquarters library

Activities of the library include reference services, bibliographic searches, control of periodical publications, photocopying, and document dissemination. Implementation has begun of the computerized program MICROISIS, which constitutes the hub of the PAHO/WHO bibliographic information program and is being used by Headquarters technical programs, Documentation Centers in the PAHO/WHO Representative Offices in the countries, and the Pan American Centers. The library participates in the regional information network and complements the work of BIREME, in regard to standardization of public health terminology, conversion of records

from other data bases to MICROISIS, access to various international data bases and those of the United Nations system, and transfer of the regional network's methodologies to the English-speaking Caribbean countries.

IV. FUTURE PROSPECTS

PAHO will continue to support the free interchange of health and biomedical information that is validated and of use to the countries in building their health system infrastructures and adapting existing and new health technologies to national conditions. Efforts will be made to increase substantially the penetration of this information at all levels of the health system in every country--not only within the academic community but among professional and technical personnel in local health services. At the same time, PAHO will cooperate with national counterparts in strengthening their own systems for disseminating health information.

This program direction is consistent with WHO's Eighth General Program of Work, covering the period 1990-1995, which targets that by 1995, a) all countries will have national policies and programs designed to meet their particular needs for health information support; and b) all countries will have mechanisms to screen WHO's publications and selectively disseminate throughout the health system those that are of relevance to them, supported by modern documentation centers in the WHO Representatives' offices.

Publications

The publications program will become an integral part of a new "Communicating for Health" program. The main thrusts of that program will be information processing, request processing, products and services development, dissemination, and outreach. That is, the focus will be on what information there is; what areas of information are needed or in demand; what information should be developed, how, and in what form; how to get that information to target audiences/readerships; and how to strengthen publishing activities.

One of the main thrusts proposed as part of this new program is "capacity building." Because PAHO is primarily concerned with the needs and priorities of its Member Countries, the Organization will focus on building the capacity and resources of its national counterparts in the area of publications, while at the same time ascertaining from field offices, on a more systematic basis, what information is available, needed or in demand, and who should receive it.

In order to undertake a comprehensive approach to interactions between the publications program and the countries, PAHO will execute a project that will entail: an inventory of existing PAHO health information products; a determination of target public(s); an assessment of

their health information needs; an inventory of existing and required human, technological, and financial resources and capabilities to meet those needs; the possibilities of coordinating PAHO, national and other entities' efforts to maximize the use and benefit of resources; a survey of information dissemination/distribution means; and an evaluation of publishing efforts. This project is expected to render reliable information as to what the countries' publications needs and demands are and how PAHO can work with national counterparts and other institutions to satisfy them.

Specific activities in the area of publications include:

- Assessing the status of some of the most important national biomedical and public health journals in order to advise as to improvements in their content, design, and circulation.
- Promoting training in writing for publication for research scientists and other public health workers interested in communicating their public health experience.
- Focusing on the information gaps to determine on which subjects PAHO should publish.
- Strengthening procedures aimed at assuring the quality control of all PAHO publications.
- Decentralizing the distribution of PAHO publications by establishing and supporting local outlets.
- Seeking copublishing arrangements with other agencies interested in disseminating information that is on subjects of shared priority.

Information and documentation

The Organization will continue to cooperate with the countries in enhancing and modernizing their networks of libraries and information centers, so that health information becomes readily available and easily accessible. This will include the strengthening of documentation centers in PAHO country offices and in the Pan American Centers as well as of the Headquarters library. At the regional level, the Organization will promote efforts to build the Latin American and Caribbean Health Information Network, including the sharing of library experience and skills, techniques in information management, lists and catalogues, and training opportunities. PAHO will continue to support the countries in their development of high-quality and relevant library services. Specific activities in this regard will include:

- Contributing to the WHO data base, which includes both conventional literature and technical documents.

- Incorporating biomedical and public health literature from Spain and Portugal into the LILACS data base.
- Strengthening the PAHO/WHO Bibliographic Information Service, including the processes of bibliographic gathering, selection, description and content analysis, and provision of information to and dissemination from centers participating in the regional network.
- Developing the LILACS-MEDLARS union catalog to be used as a search tool and the basis for rationalizing journal acquisitions in libraries throughout the Region.
- Expanding use of the United States National Library of Medicine's BITNET system to all the national information networks. In addition, the expanding project of producing and distributing CD-ROM will provide a less expensive access to the main data bases for hundreds of institutions.
- Establishing a PAHO scientific and technical central memory to preserve and transfer institutional knowledge.
- Expanding the PAHO/WHO thesaurus to include new terminology and increase the categories of health sciences descriptors.
- Increasing indexing support of the Headquarters library to PAHO technical programs and field offices.

TABLE 1

PAHO SCIENTIFIC PUBLICATIONS, 1985-1990

No.	Title
477	Simposio Internacional sobre Inmunización contra el Sarampión
478	Snail Hosts of Schistosomiasis and Other Snail-transmitted Diseases in Tropical America: A Manual
479	VI International Conference on the Mycoses
480	Enfermedades ocupacionales. Guía para su diagnóstico
481	Guías para la calidad del agua potable, Vol. 1--Recomendaciones
482	Aumento de la capacidad operativa de los servicios de salud con vistas al logro de la meta de salud para todos en el año 2000
482	Increasing the Operational Capacity of Health Services for the the Attainment of the Goal of Health for All by the Year 2000
483	Marco de referencia para el desarrollo de la educación médica en la América Latina y el Caribe
484	Simposio internacional sobre el control de la poliomielitis
485	Certificados de vacunación requeridos y consejos de salud para los viajes internacionales, 1985
486	Dispositivos intrauterinos: su función en la atención de la planificación familiar
487	Clasificación Internacional de Enfermedades Aplicada a Odontología y Estomatología
488	La salud de la mujer en las Américas
488	Health of Women in the Americas
489	La salud del adolescente y el joven en las Américas
489	The Health of Adolescents and Youths in the Americas
490	Primary Eye Care Manual
491	O enfoque de risco na assistência à saúde: com especial referência à saúde materno-infantil, inclusive planejamento familiar
492	Hacia el bienestar de los ancianos
492	Toward the Well-being of the Elderly
493	Infecciones respiratorias agudas en los niños
494	Manual para el análisis de la fecundidad
495	Criterios de planificación y diseño de instalaciones de atención de la salud en los países en desarrollo, vol. 4
496	Estudios médicos independientes: su efecto potencial en el sistema de atención de la salud
497	Recomendaciones de la Comisión Internacional de Protección Radiológica
498	Tuberculosis Control: A Manual on Methods and Procedures for Integrated Programs
498	Control de la tuberculosis: Manual sobre métodos y procedimientos para los programas integrados
499	Control de calidad en radioterapia. Aspectos clínicos y físicos

TABLE 1 (cont.)

No.	Title
500	Las condiciones de salud en las Américas, 1981-1984 (dos volúmenes)
500	Health Conditions in the Americas, 1981-1984 (two volumes)
501	Salt Fluoridation
502	Towards the Eradication of Endemic Goiter, Cretinism, and Iodine Deficiency
503	Zoonosis y enfermedades transmisibles comunes al hombre y a los animales, 2ª edición
503	Zoonoses and Communicable Diseases Common to Man and Animals, 2nd edition
504	Patterns of Birthweights
504	Características del peso al nacer
505	El desafío de la epidemiología: problemas y lecturas seleccionadas
505	The Challenge of Epidemiology; Issues and Selected Readings
506	Guías para la calidad del agua potable, vol. 2
507	El control de las enfermedades transmisibles en el hombre, 14a. edición
508	Guías para la calidad del agua potable, vol. 3
509	El derecho a la salud en las Américas. Estudio constitucional comparado
509	The Right to Health in the Americas. A Comparative Constitutional Study
510	Crecimiento y desarrollo. Hechos y tendencias
511	IV Seminario Regional de Tuberculosis
512	Diagnóstico de malaria
512	Diagnosis of Malaria
513	Compendio de enfermedades alérgicas e inmunológicas
514	SIDA: Perfil de una epidemia
514	AIDS: Profile of an Epidemic
515	Guía para evaluar el estado de nutrición
516	Vigilancia alimentaria y nutricional en las Américas
517	Economía de la salud. Perspectivas para América Latina
517	health Economics. Latin American Perspectives
518	Anestesia en el hospital de distrito
519	Los sistemas locales de salud: conceptos, métodos y experiencias
520	Insuficiencia renal crónica, diálisis y trasplante. Primera Conferencia de Consenso
521	Cirugía general en el hospital de distrito
522	Abuso de drogas
522	Drug Abuse
523	La informática y la telemática en el campo de la salud. Usos actuales y potenciales
524	Las condiciones de salud en las Américas, 1985-1988
524	health Conditions in the Americas, 1985-1988
525	Información de medicamentos (2 volúmenes)
526	Cómo escribir y publicar un trabajo científico

TABLE 2

PAHO TECHNICAL PAPERS, 1986-1990

No.	Title
1	Malaria en las Américas. Análisis crítico
2	Control del hábito de fumar. Taller subregional para el Cono Sur y Brasil
3	Protección del paciente en radiodiagnóstico
4	Investigaciones sobre servicios de salud. Índice de trabajos
5	Malaria en las Américas. Informe de la IV Reunión de Directores de los Servicios Nacionales de Erradicación de la Malaria en las Américas
6	Guía práctica para la erradicación de la poliomielitis
6	Polio Eradication Field Guide
7	Pautas simplificadas. Control de las enfermedades de transmisión sexual
8	Atención médica de casos graves y complicados de malaria
9	Control del hábito de fumar. Segundo taller subregional. Area Andina
10	Problemas nutricionales en países en desarrollo en las décadas de 1980 y 1990
11	Assessing Needs in the Health Sector after Floods and Hurricanes
11	Evaluación de necesidades en el sector salud con posterioridad a inundaciones y huracanes
12	Fecundidad en la adolescencia. Causas, riesgos y opciones
13	National Health and Social Development in Costa Rica: A Case Study of Intersectoral Action
14	Los servicios de salud en las Américas. Análisis de indicadores básicos
15	Protección contra la radiación ionizante de fuentes externas utilizadas en medicina
16	Education and Training Needs for Medical Entomology in the Americas
16	Necesidades para la educación y el adiestramiento de entomólogos médicos en las Américas
17	Administración de emergencias en salud ambiental y provisión de agua
18	Vigilancia del crecimiento y desarrollo del niño. Curso integrado de salud materno-infantil
19	Malaria en las Américas. Informe de la V Reunión de Directores de los Servicios Nacionales de la Erradicación de la Malaria y Directores Generales de Salud en las Américas
20	Smoking Control. Third Subregional Workshop, Caribbean Area
21	Estudio sobre intervenciones alimentario-nutricionales para poblaciones de bajos ingresos en Latinoamérica y el Caribe
22	A Profile of the Elderly in Trinidad and Tobago

TABLE 2 (cont.)

No.	Title
23	Strengthening Health Research in the Americas through International Collaboration
24	A Profile of the Elderly in Guyana
25	Por una mejor alimentación. Evaluación de programas destinados a mejorar el consumo alimentario y el estado nutricional de familias pobres en Brasil
26	A Profile of the Elderly in Argentina
27	Psychopharmacology of Children and Adolescents: A Primer for the Clinician
28	Primer informe sobre la situación de la nutrición en el mundo
29	A Profile of the Elderly in Costa Rica
30	A Profile of the Elderly in Chile

TABLE 3

PAHO OFFICIAL DOCUMENTS, 1985-1989

No.	Title
197	Final Report, XXX Meeting of the PAHO Directing Council. XXXVI Meeting, WHO Regional Committee/Informe Final, XXX Reunión del Consejo Directivo de la OPS. XXXVI Reunión, Comité Regional de la OMS
198	Précis Minutes of the XXX Meeting of the Directing Council of the PAHO. XXXVI Meeting of the Regional Committee of the WHO for the Americas (1984)/Actas Resumidas de la XXX Reunión del Consejo Directivo de la OPS. XXXVI Reunión del Comité Regional de la OMS para las Américas (1984)
199	Program Budget 1986-1987 and Provisional Draft 1988-1989
199	Presupuesto por programas 1986-1987 y Anteproyecto 1988-1989
200	Interim Financial Report of the Director for the Year 1984
200	Informe financiero parcial del Director para el año 1984
201	Annual Report of the Director 1984
201	Informe Anual del Director 1984
202	Précis Minutes and Final Reports of the 93rd, 94th, and 95th Meetings of the Executive Committee of the PAHO/Actas resumidas e Informes Finales de la 93a, 94a y 95a Reuniones del Comité Ejecutivo de la OPS
203	Informe Final, XXXI Reunión del Consejo Directivo de la OPS. XXXVII Reunión del Comité Regional de la OMS/Final Report, XXXI Meeting of the PAHO Directing Council. XXXVII Meeting of the WHO Regional Committee
204	Actas resumidas. XXXI Reunión del Consejo Directivo de la OPS, XXXVII Reunión del Comité Regional de la OMS para las Américas (1985)/Précis Minutes of the XXXI Meeting of the Directing Council of the PAHO, XXXVII Meeting of the Regional Committee of the WHO for the Americas (1985)
205	Financial Report of the Director and Report of the External Auditor, 1984-1985
205	Informe Financiero del Director e Informe del Auditor Externo, 1984-1985
206	Informe de la 96a Reunión del Comité Ejecutivo de la OPS/Report of the 96th Meeting of the PAHO Executive Committee
207	Informe del Director. Cuadrienal 1982-1985, Anual 1985
207	Report of the Director. Quadrennial 1982-1985, Annual 1985
208	Actas Resumidas de la 97a Reunión del Comité Ejecutivo de la Organización Panamericana de la Salud/Summary Records of the 97th Meeting of the Executive Committee of the Pan American Health Organization

TABLE 3 (cont.)

No.	Title
209	Actas taquigráficas de la XXII Conferencia Sanitaria Panamericana, XXXVIII Reunión del Comité Regional de la OMS para las Américas/Verbatim Records of the XXII Pan American Sanitary Conference, XXXVIII Meeting of the Regional Committee of the WHO for the Americas
210	Program Budget 1988-1989 and Provisional Draft 1990-1991
210	Presupuesto por Programas 1988-1989 y Anteproyecto 1990-1991
211	Informes finales. 96a y 97a Reuniones del Comité Ejecutivo de la OPS. XXII Conferencia Sanitaria Panamericana. XXXVIII Reunión, Comité Regional de la OMS para las Américas (bilingüe)
211	Final Reports. 96th and 97th Meetings of the PAHO Executive Committee. XXII Pan American Sanitary Conference. XXXVIII Meeting, WHO Regional Committee for the Americas
212	Manual de Resoluciones de los Cuerpos Directivos de la Organización Panamericana de la Salud, vol. 3
212	Handbook of Resolutions of the Governing Bodies of the Pan American Health Organization, vol. 3
213	Actas resumidas de la 98a Reunión del Comité Ejecutivo de la OPS/Summary Records of the 98th Meeting of the Executive Committee of PAHO
214	Informe Financiero Parcial del Director para el año 1986
214	Interim Financial Report of the Director for the Year 1986
215	Informe Anual del Director, 1986
215	Annual Report of the Director, 1986
216	Summary Records of the 99th Meeting of the PAHO Executive Committee of the Pan American Health Organization/Actas Resumidas de la 99a Reunión del Comité Ejecutivo de la Organización Panamericana de la Salud
217	Actas Resumidas de la XXXII Reunión del Consejo Directivo de la Organización Panamericana de la Salud. XXXIX Reunión del Comité Regional de la OMS para las Américas/Summary Records of the XXXII Meeting of the Directing Council. XXXIX Meeting of the Regional Committee of the WHO for the Americas
218	Actas Resumidas de la 100a Reunión del Comité Ejecutivo de la Organización Panamericana de la Salud/Summary Records of the 100th Meeting of the Executive Committee of the Pan American Health Organization
219	Informes Finales de la 98a y 99a Reuniones del Comité Ejecutivo de la OPS y de la XXXII Reunión del Consejo Directivo de la OPS. XXXIX Reunión, Comité Regional de la OMS para las Américas/Final Reports of the 98th and 99th Meetings of the PAHO Executive Committee and of the XXXII Meeting of the Directing Council of PAHO. XXXIX Meeting, WHO Regional Committee for the Americas
220	Informe Financiero del Director e Informe del Auditor Externo, 1986-1987

TABLE 3 (cont.)

No.	Title
220	Financial Report of the Director and Report of the External Auditor, 1986-1987
221	Informe Anual del Director, 1987
221	Annual Report of the Director, 1987
222	Summary Records of the 101st Meeting of the Executive Committee of PAHO/Actas Resumidas de la 101a Reunión del Comité Ejecutivo de la OPS
223	Summary Records of the XXXIII Meeting of the PAHO Directing Council/Actas Resumidas de la XXXIII Reunión del Consejo Directivo de la OPS
224	Summary Records of the 102nd Meeting of the Executive Committee/Actas Resumidas de la 102a Reunión del Comité Ejecutivo de la OPS
225	Informes Finales de la 100a y 101a Reuniones del Comité Ejecutivo de la OPS y de la XXXIII Reunión del Consejo Directivo de la OPS. XL Reunión, Comité Regional de la OMS para las Américas/Final Reports of the 100th and 101st Meetings of the PAHO Executive Committee, XXXIII Meeting of the Directing Council of PAHO. XL Meeting, WHO Regional Committee for the Americas
226	Presupuesto por programas 1990-1991 y Anteproyecto 1992-1993
226	Program Budget 1990-1991 and Provisional Draft 1992-1993
227	Informe Financiero Parcial del Director para el año 1988
227	Interim Financial Report of the Director for the year 1988
228	Informe Anual del Director 1988
228	Annual Report of the Director 1988
229	Summary Records of the 103rd Meeting of the Executive Committee of PAHO/Actas Resumidas de la 103a Reunión del Comité Ejecutivo de la OPS
230	Summary Records of the XXXIV Meeting of the PAHO Directing Council/Actas Resumidas de la XXXIV Reunión del Consejo Directivo de la OPS
231	Summary Records of the 104th Meeting of the Executive Committee of PAHO/Actas Resumidas de la 104a Reunión del Comité Ejecutivo de la OPS
232	Informes Finales de 102a y 103a Reuniones del Comité Ejecutivo de la OPS y de la XXXIV Reunión del Consejo Directivo de la OPS. XLI Reunión, Comité Regional de la OMS para las Américas/Final Reports of the 102nd and 103rd Meetings of the PAHO Executive Committee, XXXIV Meeting of the Directing Council of PAHO. XLI Meeting, WHO Regional Committee for the Americas